UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,060	01/22/2002	Andres Vega-Garcia	418268899US	3880

45979	7590	05/16/2006

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EXAMINER
SHAND, ROBERTA A

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/054,060	VEGA-GARCIA ET AL.
	Examiner	Art Unit	
	Roberta A. Shand	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 April 2006</u>.

2a)☐ This action is **FINAL**.　　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-8,10-30,32-34,36 and 37</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>2-8 and 36</u> is/are allowed.

6)☒ Claim(s) <u>10-30,32-34 and 37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Finality has been withdrawn and the following office action applies.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

2.   Claim 24 is recites the limitation "the computed gross bandwidth". There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Gross (U.S.

2002/0176367 A1).

5.   Regarding claim 32, Gross teaches a system for optimizing real time communication

between one or more remote devices on a network (fig. 1), comprising: one or more devices

coupled to the network transmitting one or more meaningful control packets from (fig. 4) and

one or more dummy control packets (test packets) during the real time communication; and a

quality control mechanism residing on at least one device for adjusting the data transmission

settings of the device based on the difference in arrival times between at least one of the meaningful control packet and at least one of the dummy packets (page 5, paragraph 39); and a network application residing on at least one device (fig. 4).

6.   Regarding claim 33, Gross teaches a system for optimizing real time communication between one or more remote devices on a network (fig. 1), comprising: one or more devices coupled to the network transmitting one or more meaningful control packets from (fig. 4) and one or more dummy control packets (test packets) during the real time communication; and a quality control mechanism residing on at least one device for adjusting the data transmission settings of the device based on the difference in arrival times between at least one of the meaningful control packet and at least one of the dummy packets (page 5, paragraph 39); and the dummy control packet (test packet) and the meaningful control packet having the same protocol (IP) (page 7, paragraphs 55-56).

7.   Regarding claim 34, Gross teaches a system for optimizing real time communication between one or more remote devices on a network (fig. 1), comprising: one or more devices coupled to the network transmitting one or more meaningful control packets from (fig. 4) and one or more dummy control packets (test packets) during the real time communication; and a quality control mechanism residing on at least one device for adjusting the data transmission settings of the device based on the difference in arrival times between at least one of the meaningful control packet and at least one of the dummy packets (page 5, paragraph 39); ad computing difference in arrival times between at least one of the meaningful control packet and at least one of the dummy packets (page 5, paragraph 39).

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 10-16, 19, 20, 26, 30 and 37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Gross in view of Yip (U.S. 6891798).

3.   Regarding claim 10, Gross teaches (page 5, paragraph 39) reporting the approximated

bandwidth to the remote devices.

4. .   Regarding claim 11, Yip teaches a (col. 5, lines 21-30) computing a bandwidth limit as a

minimal of local bandwidth.

5. .   Regarding claim 12, Yip teaches a (col. 4, line 52 - col. 5, line 30) selecting the

bandwidth limit as bandwidth available on the network when no data is reported lost (fig. 3).

6.   Regarding claims 13 and 14, Gross teaches calculating the bandwidth available on the

network based network conditions including the difference in arrival times between a meaningful

control packet and a dummy packets (page 5, paragraph 39).

7.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

8.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network. It would have been obvious to one of ordinary skill in the

art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

9.   Gross also dos not teach determining bandwidth available on the network as the smaller

of a current bandwidth or a previously allocated bandwidth when some of the meaningful control

packets and dummy control packets are reported as lost over the network.

10.   Yip teaches (figs. 3 and 4) determining bandwidth available on the network as the smaller

of a current bandwidth or a previously allocated bandwidth when some of the meaningful control

packets and dummy control packets are reported as lost over the network (Yip's loss ratio is used

to calculate the effective bandwidth, therefore whatever the packet loss determines the

bandwidth). It would have been obvious to one of ordinary skill in the art to adapt this to Gross'

system to increase quality of service.

11.   Regarding claims 15 and 16, Gross teaches calculating the bandwidth available on the

network based network conditions including the difference in arrival times between a meaningful

control packet and a dummy packets (page 5, paragraph 39).

12.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

13.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network. It would have been obvious to one of ordinary skill in the

art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

14.   Gross also dos not teach determining bandwidth available on the network as the larger of

a current bandwidth or a previously allocated bandwidth when none of the meaningful control

packets and dummy control packets are reported as lost over the network.

15.   Yip teaches (figs. 3 and 4) determining bandwidth available on the network as the larger

of a current bandwidth or a previously allocated bandwidth when none of the meaningful control

packets and dummy control packets are reported as lost over the network (Yip's loss ratio is used

to calculate the effective bandwidth, therefore whatever the packet loss determines the

bandwidth). It would have been obvious to one of ordinary skill in the art to adapt this to Gross'

system to increase quality of service.

16.   Regarding claims 19 and 20, Gross teaches calculating the bandwidth available on the

network based network conditions including the difference in arrival times between a meaningful

control packet and a dummy packets (page 5, paragraph 39).

17.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network and comparing data transmission settings common to the

one ore more remote devices and the receiving device with setting indicated by a configuration

matrix.

18.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network and comparing data transmission settings common to the

one ore more remote devices and the receiving device with setting indicated by a configuration

matrix (col. 5, line 21 – col. 6, line 19). It would have been obvious to one of ordinary skill in

the art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

19.   Regarding claim 26, Gross teaches calculating the bandwidth available on the network

based network conditions including the difference in arrival times between a meaningful control

packet and a dummy packets (page 5, paragraph 39).

20.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network and configuring the receiving device such that its data

transmission settings correspond to the final framerate.

21.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network and configuring the receiving device such that its data

transmission settings correspond to the final framerate (col. 5, line 21 – col. 6, line 19). It would

have been obvious to one of ordinary skill in the art to adapt this to Gross' system to avoid

congestion within the system, and avoid data loss.

22.   Regarding claim 30, Gross teaches a computer readable medium having instructions for

performing method for optimizing real time communication between one or more remote devices

on a network (fig. 1), comprising: approximating the bandwidth available on the network based

on the difference in arrival times between at least one of the meaningful control packet and at

least one of the dummy packets (page 5, paragraph 39).

23.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

24.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network. It would have been obvious to one of ordinary skill in the

art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

25.   Regarding claim 37, Gross teaches a system for optimizing a streaming media session

occurring between one or more remote devices on a network (fig. 1), comprising: means for

receiving one or more meaningful control packets from at least one remote device to maintain

quality of service (fig. 4); means for receiving one or more dummy control packets (test packets)

from at least one remote device the dummy control packet (test packet) and the meaningful

control packet having the same protocol (IP); and means for approximating the bandwidth

available on the network based on the difference in arrival times between at least one of the

meaningful control packet and at least one of the dummy packets (page 5, paragraph 39).

26.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network and comparing data transmission settings common to the

one ore more remote devices and the receiving device with setting indicated by a configuration

matrix.

27.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network and comparing data transmission settings common to the

one ore more remote devices and the receiving device with setting indicated by a configuration

matrix (col. 5, line 21 – col. 6, line 19). It would have been obvious to one of ordinary skill in

the art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

28.   Claims 17, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gross in view of Yip and further in view of Surazski (U.S. 6657983 B1).

29.   Regarding claim 17, Gross nor Yip teach increasing the bandwidth available on the

network when the bandwidth limit is greater than the bandwidth available.

30.   Surazski teaches a (col. 15, line 41 - 52) increasing the bandwidth available on the

network when the bandwidth limit is greater than the bandwidth available. It would have been

obvious to one of ordinary skill in the art to adapt this to Gross and Yip's system to prevent data

loss.

31.   Regarding claim 18, as for a base bandwidth when adjusting, it is inherent in Surazski's

system that when estimating the bandwidth certain thresholds are set (fig. 3).

32.   Regarding claim 21, Surazski teaches a (fig. 1) enabling a QoS mechanism on the device.

33.   Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gross in view of

Yip and further in view of Chen (U.S. 6680976 B1).

34.   Regarding claim 22, Gross not Tip teach enabling a FEC mechanism on the receiving

device when the bandwidth is greater than a designated value.

35.   Chen teaches FEC. It would have been obvious to one of ordinary skill in the art to adapt

FEC to Gross and Yip's system as it is well known in the art for error correction.

36.   Claims 23, 24 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gross in view of Yip and further in view of Rostoker (U.S. 5784572).

37.   Regarding claim 23, Gross teaches calculating the bandwidth available on the network

based network conditions including the difference in arrival times between a meaningful control

packet and a dummy packets (page 5, paragraph 39).

38.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

39.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network (col. 5, line 21 – col. 6, line 19). It would have been obvious

to one of ordinary skill in the art to adapt this to Gross' system to avoid congestion within the

system, and avoid data loss.

40.   Gross and Yip do not teach computing a gross bandwidth as the difference between the

bandwidth available over the network and an audio bandwidth setting corresponding to the

configuration matrix.

41.   Rostoker teaches (fig. 2) computing a gross bandwidth as the difference between the bandwidth available over the network and an audio bandwidth setting corresponding to the configuration matrix (Rostoker teaches that the remaining bandwidth (Applicant's gross bandwidth) is calculated by subtracting the overall bandwidth and the bandwidth used for audio, this remaining bandwidth is used for video, col. 4, lines 13-20). It would have been obvious to one of ordinary skill in the art to adapt this to Gross and Yip's system to determine the remaining bandwidth for video transmission.

42.   Regarding claim 24, Gross teaches calculating the bandwidth available on the network based network conditions including the difference in arrival times between a meaningful control packet and a dummy packets (page 5, paragraph 39).

43.   Gross does not teach adjusting data transmission settings of the device based on the bandwidth available on the network.

44.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the bandwidth available on the network (col. 5, line 21 – col. 6, line 19). It would have been obvious to one of ordinary skill in the art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

45.   Gross and Yip do not teach computing an initial framerate based on the computed gross bandwidth.

46.   Rostoker teaches (fig. 2) computing an initial framerate based on the computed gross bandwidth (col. 4, lines 13-20). It would have been obvious to one of ordinary skill in the art to adapt this to Gross and Yip's system to ensure quality of service.

47.   Regarding claim 27, Gross teaches calculating the bandwidth available on the network

based network conditions including the difference in arrival times between a meaningful control

packet and a dummy packets (page 5, paragraph 39).

48.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

49.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network (col. 5, line 21 – col. 6, line 19). It would have been obvious

to one of ordinary skill in the art to adapt this to Gross' system to avoid congestion within the

system, and avoid data loss.

50.   Gross and Yip do not teach computing a raw video bitrate as the difference between the

gross bandwidth and one or more specified video header values.

51.   Rostoker teaches (fig. 2) computing a gross bandwidth. Since Rostoker teaches that the

remaining bandwidth (Applicant's gross bandwidth) is calculated by subtracting the overall

bandwidth and the bandwidth used for audio, this remaining bandwidth is used for video, col. 4,

lines 13-20, it is inherent in Rostoker's system that the remaining bandwidth (gross bandwidth) is

divided among the video header and payload (raw data). It would have been obvious to one of

ordinary skill in the art to adapt this to Gross and Yip's system to determine the remaining

bandwidth for video transmission.

52. Regarding claims 28 and 29, Gross teaches calculating the bandwidth available on the network based network conditions including the difference in arrival times between a meaningful control packet and a dummy packets (page 5, paragraph 39).

53. Gross does not teach adjusting data transmission settings of the device based on the bandwidth available on the network.

54. Yip teaches (fig. 4) adjusting data transmission settings of the device based on the bandwidth available on the network (col. 5, line 21 – col. 6, line 19). It would have been obvious to one of ordinary skill in the art to adapt this to Gross' system to avoid congestion within the system, and avoid data loss.

55. Gross and Yip do not teach configuring the receiving device such that its data transmission settings correspond to the raw video bitrate.

56. Rostoker teaches (fig. 2) computing a gross bandwidth. Since Rostoker teaches that the remaining bandwidth (Applicant's gross bandwidth) is calculated by subtracting the overall bandwidth and the bandwidth used for audio, this remaining bandwidth is used for video, col. 4, lines 13-20, it is inherent in Rostoker's system that the receiving device is configured such that its data transmission settings correspond to the raw video bitrate. It would have been obvious to one of ordinary skill in the art to adapt this to Gross and Yip's system to maintain efficiency within the system.

57. Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gross in view of Yip and further in view of Schreiber (U.S. 4979041).

58.   Regarding claim 25, Gross teaches calculating the bandwidth available on the network

based network conditions including the difference in arrival times between a meaningful control

packet and a dummy packets (page 5, paragraph 39).

59.   Gross does not teach adjusting data transmission settings of the device based on the

bandwidth available on the network.

60.   Yip teaches (fig. 4) adjusting data transmission settings of the device based on the

bandwidth available on the network (col. 5, line 21 – col. 6, line 19). It would have been obvious

to one of ordinary skill in the art to adapt this to Gross' system to avoid congestion within the

system, and avoid data loss.

61.   Gross and Yip do not teach computing a final framerate as the product of the initial

framerate and a specified temporal-spatial tradeoff.

62.   Schreiber teaches (col. 5, lines 4-14) final framerate as the product of the initial framerate

and a specified temporal-spatial tradeoff. It would have been obvious to one of ordinary skill in

the art to adapt this to Gross and Yip's system as it is well known in the art.

Allowable Subject Matter

63.   Claims 2-8 and 36 are allowed.

Conclusion

64.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Roberta A Shand whose telephone number is 571-272-3161. The

examiner can normally be reached on M-F 9:00am-5:30pm.

65.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

66.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roberta A Shand
Examiner
Art Unit 2665

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